

From glowbugs@theporch.com Thu Nov 21 11:00:56 1996
Return-Path: <glowbugs@theporch.com>
Received: from uro (localhost.theporch.com [127.0.0.1])
by uro.theporch.com (8.8.3/AUX-3.1.1)
with SMTP id KAA14974;
Thu, 21 Nov 1996 10:56:11 -0600 (CST)
Date: Thu, 21 Nov 1996 10:56:11 -0600 (CST)
Posted-Date: Thu, 21 Nov 1996 10:56:11 -0600 (CST)
Received-Date: Thu, 21 Nov 1996 10:56:11 -0600 (CST)
Message-Id: <199611211656.KAA14974@uro.theporch.com>
Errors-To: conard@tntech.campus.mci.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 359
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
Status: 0

GLOWBUGS Digest 359

Topics covered in this issue include:

- 1) Re: 6336 tube?
by rdkeys@csemail.cropsci.ncsu.edu
- 2) Re: 6336 tube?
by rdkeys@csemail.cropsci.ncsu.edu
- 3) Re: WS128 radio
by "Brian Carling" <bry@mail1.mnsinc.com>
- 4) Larry's 2nd day of Christmas giveaway
by "Lawrence R. Ware" <lrware@pipeline.com>
- 5) OLD RADIOS BETTER!
by "Cory Hine" <hinec@ccgate.dl.nec.com>
- 6) Grammer 1932 Hartley Tube Tests of 6SN7 6336 etc...
by rdkeys@csemail.cropsci.ncsu.edu

Date: Wed, 20 Nov 1996 16:08:49 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: bratcher@worldnet.att.net (Robert M. Bratcher Jr.)
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: 6336 tube?
Message-ID: <9611202108.AA102527@csemail.cropsci.ncsu.edu>

> >For fun, I challenge all ye glowbuggites to fires ye up a 6336 set.
> >That is like 100 12AU7's in one bottle....(:+}}..... Beware that its
> >heater current is over 5 amperes. Also, it tends to like lower plate
> >voltages like 150 or so. It also will regenerate, too....(:+}}.....
> >
> >73/ZUT DE NA4G/Bob UP
>
> Never heard of one. Please tell me all about this tube.
> What was it used for? RF amp maybe?
>
> Robert M. Bratcher Jr.

The 6336 is the biggest in the line of dual triodes that start with the little 6SL7, 6SN7, 6080, ... 6336. It is used as a pass transistor would be used in power supply regulators. The heater current is 5.5 amps, and I don't remember right off the rest of its specs (plate voltage max around 250 I think). They are often used in tube power supplies as regulators, in the late tube era. The audio types seem to also like them as lo-mu amplifier triodes. They are about the size of a BIG 6080 or 6550 tube. I can get them to run several watts in the 6SN7 Hartleys on about 90 plate volts. They are a nice husky tube. Their plate current ratings are in the hundred ma ranges, per section, if I remember rightly... Folks tell me they won't oscillate because their gain is too low....(:+}}..... Hint: build the Grammer Hartley and test them for yerself!

73/ZUT DE NA4G/Bob UP

Date: Wed, 20 Nov 1996 16:13:04 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: rdkeys@csemail.cropsci.ncsu.edu (rdkeys)
Cc: glowbugs@theporch.com
Subject: Re: 6336 tube?
Message-ID: <9611202113.AA102539@csemail.cropsci.ncsu.edu>

> The 6336 is the biggest in the line of dual triodes that start with the
> little 6SL7, 6SN7, 6080, ... 6336. It is used as a pass transistor would
> be used in power supply regulators. The heater current is 5.5 amps,

Note... these things have graphite anodes..... I wonder why?????

(Hint: they are ppoowweerr tubes, that's why!)

A fine firebottle they be.....

73/ZUT DE NA4G/Bob UP

Date: Wed, 20 Nov 1996 13:16:36 +0000
From: "Brian Carling" <bry@mail1.mnsinc.com>
To: glowbugs@theporch.com
Subject: Re: WS128 radio
Message-ID: <199611202113.QAA07254@user2.mnsinc.com>

Someone was asking me the other day here, WHO it was that had the
WS-128 radio. I got the following reply today but lost track of YOUR
message inquiring about WHO "John" was!

=====
Forwarded message:

- - - - -
To: bry@mnsinc.com
From: John Fletcher <johnf@innotts.co.uk>
Subject: Re: Introduction

At 04:52 18/11/96 +0000, you wrote:

>Hello John - are you still here on GLOWBUGS?

Yes I am, one of the silent listeners

>How is the WS128 coming along?

[snip]

So nothing to report on the WS128 but I'm still here and when the old
set goes on the air again I'll let the group know.

[snip]

John G4EDX
=====

John, I hope you will forgive my taking the liberty of passing along
your e-mail address here in the group to this gentleman who was trying
to contact you. It's probably just the most efficient way to do it.

Bry, G3XLQ

*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *

*** See the great ham radio resources at: *

** <http://www.mnsinc.com/bry/> *

Date: Wed, 20 Nov 1996 22:04:37 +0000
From: "Lawrence R. Ware" <lrware@pipeline.com>
To: boatanchors@theporch.com
Cc: glowbugs@theporch.com
Subject: Larry's 2nd day of Christmas giveaway
Message-ID: <1.5.4.16.19961120220437.333f5460@pop.pipeline.com>

Good evening firebottle fans:
It's early yet, but here is "Larry's second day of Christmas," part two of a 12 part giveaway between now and Christmas. Tonight I'm posting this to "glowbugs" as well as "boatanchors" because some of this junk, (errrr, *Great Stuff*) might come in handy to all QRP builder firends too.

So without further ado...
Welcome to Larry's "Second Day of Christmas" free stuff giveaway. Tonight for your perusal, the following items are available free to good BA, or glowbugs homes. You get to pay the shipping.

Lot One: (courtesy of Robert Fowle, the Hammerlund guy, who donated these to the cause.)
Collection of Hallicrafters paper. Service data for the following models: CR-3000 receiver, CRX-103 receiver, CR-50 RDF receiver, FM-46,48,52 & 54 receivers, CR-44 & CR-44A RDF receivers. Each includes specs, dial cord stringing, schematic, parts locator, alignment data, etc. (I will photocopy these in the unlikely event I get multiple requests :-)

Lot Two:
New EBY ceramic HC-6U crystal sockets. Perfect for that glowbug project. I have a fistfull of these, one or two per request while they last.

Lot Three:
New EBY "six-pack" HC-6U crystal sockets. These are for six crystals in a line with seperate connections for each pin. Could be used for crystal filter project, or with a switch for a six freq. project. Appear to be made of some kind of thermoplastic resin, not Bakelite. I have about six sets of these so one per request please.

Thats going to do it for now, Keep your eyes open for parts three to twelve as we march towards the Christmas season...

<yikes! already?>

For the benefit of the "glowbugs" folks, (most of the BA folks have seen these a bunch of times) here are the rules:

Winners will be determined by:

- 1) Tell me why you need/want them, points awarded for:
 - a) Repairing or building a firebottle rig.
 - b) Needing them to complete a collection.
 - c) Buying for someone your "Elmer-ing"
 - d) For old manuals/documents owning the radio or whatever.
 - e) *Making up an outrageous story of what you will use them for. :-)
 - * For item "d" the taller and more unbelievable the better...

Storys about space aliens, Bankers, New York, or space alien CPA/Banker's invading New York are always good for extra points.

- 2) Bonus points to anyone who has sent me a manual, helped me find a part, or provided advice, (good or bad, it's the effort that counts. :-) or sold me something at a reasonable price.

Winners will be determined any darn way I feel like.
Judges decision is final. (Although open to bribes :-)

Enjoy

-Larry Ware

Crazy Larry's Home for Wayward Test Equipment & Old Radios (tm)
Let your equipment retire in sunny central Florida.
Intensive Care, Private Bench Space, Frequent Use,
Factory trained HP, Tek. & Fluke Surgeon on staff.
Good Home Guaranteed or double your junk back!
lrware@pipeline.com, - Orlando, Florida -

Date: Thu, 21 Nov 96 07:10:01 CDT
From: "Cory Hine" <hinec@ccgate.dl.nec.com>
To: boatanchors@theporch.com, glowbugs@theporch.com
Subject: OLD RADIOS BETTER!
Message-ID: <9610218485.AA848596978@smtpgw.ccgate.dl.nec.com>

Article in Electric Radio....

Nov., 96 #91

Page 28 "Have We Come A Long Way?" Apparently not! The old tube radios are vastly superior to what is being produced today... Keep

your S-line's.

Cory Hine/N2AQS/AFA4TZ

Date: Thu, 21 Nov 1996 13:04:19 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: glowbugs@theporch.com
Cc: rdkeys@csemail.cropsci.ncsu.edu ()
Subject: Grammer 1932 Hartley Tube Tests of 6SN7 6336 etc...
Message-ID: <9611211804.AA103321@csemail.cropsci.ncsu.edu>

I did some experimenting on 160M last night with the Grammer 1932 Hartley rig design that I updated to use the generic dual triode octal tube as the oscillator tube. I was using everything that I could find in my tube boxes that would plug into her.

Note --- the complete tube series that I have found that will work in the basic dual triode socket emulating the 6SN7 is:

2C50, 2C52, 6AS7, 6BL7, 6BX7, 6DN7, 6EA7, 6SL7, 6SN7, 6SU7,
8SN7, 10EG7, 12SL7, 12SN7, 1633, 5691, 5692, 5998, 6062,
6080, 6188, 6336, 6394, 6250, 6528, 7105.

(Hint: Now you know why I chose the 6SN7 as the basis for updating the classic Hartley oscillator --- it has a tremendous family of brethren to just plug and play with!)

Of note is that I found out that the 6336 was a tin plate tube, but the graphite anode tube was the 6528A. I was playing around with various tubes and came up with the following measurements on loose coupling (3/4 inches of coupling) using the Grammer 1932 Hartley design (updated) in the BA/GB archives:

Tube: 6SL7 (the smallest of the dual triode octal tubes in this basing series)

PLATE VOLTAGE PLATE CURRENT INPUT POWER OUTPUT POWER

50 volts 1 ma 50 mw (trace)

100 5 500 50 mw

150	8	1200	100
200	12	2400	250
250	15	3750	400

Note --- the coupling was such as to give about a 10-20% output power and no more. It was quite stable and chirp free at that coupling.

Tube: 6SN7 (my standard play dual triode baby power tube)

PLATE VOLTAGE	PLATE CURRENT	INPUT POWER	OUTPUT POWER
50 volts	4 ma	200 mw	50 mw
100	8	800	200
150	12	1800	400
200	18	3600	600
250	18	4500	750

Tube: 6AS7G (this is a bigger dual triode power tube)

PLATE VOLTAGE	PLATE CURRENT	INPUT POWER	OUTPUT POWER
50 volts	20 ma	1000 mw	100 mw
100	35	4000	300
150	50	7500	500
200	65	13000	750
250	80	20000	1000

Tube: 6080 (this is a big high current dual class A amplifier)

and triode regulator power tube)

PLATE VOLTAGE	PLATE CURRENT	INPUT POWER	OUTPUT POWER
50 volts	75 ma	3.75 w	100 mw
100	175	17.5	200

Note --- this tube draws huge plate currents, so only works well on low plate voltages.

Tube: 6336A (this is the HUGE tin plate dual triode power tube)

PLATE VOLTAGE	PLATE CURRENT	INPUT POWER	OUTPUT POWER
50 volts	12 ma	600 mw	100 mw
100	22	2200	300
150	32	4800	500
200	46	9200	750
250	60	15000	1000

Note --- you have to be very careful with the 6336A, because it will short out on plate voltages above 250vdc.

Tube: 6528A (this is the MONSTER graphite plate dual triode power tube)

PLATE VOLTAGE	PLATE CURRENT	INPUT POWER	OUTPUT POWER
50 volts	3 ma	150 mw	100 mw
100	6	600	300
150	9	1350	500
200	12	2400	750
250	15	3750	1000

Note --- This tube worked very well at high voltages and high powers even with tighter-than-normal coupling. This tube is one to look out for in the junk boxes and hang onto for future Hartley oscillator use. I am not sure of the highest satisfactory plate voltage, but it took 275 volts without batting an eye.

As a further experiment, I tightened up the coupling on the tank coil from 3/4 inches of coupling to 1/2 inches of coupling to 1/4 inches of coupling with the following results:

Tube: 6528A (this is the MONSTER graphite plate dual triode power tube)

PLATE VOLTAGE	PLATE CURRENT	INPUT POWER	OUTPUT POWER	COUPLING
275 volts	45 ma	12.4 w	7.0 w	1/4 inch
275	38	10.5	4.0	1/2 inch
275	20	5.5	2.0	3/4 inch
275	15	4.1	1.2	2 inches

Note --- All the above measurements were into a dummy load with subsequent testing on a 1/4 wave grounded Marconi antenna for stability.

Note --- The tube was extremely stable at all powers into a dummy load and into an antenna. But, at tight coupling (1/2 and 1/4 inches) I picked up a spurious emission about 100khz low out of the 160M band and shut things down, immediately, using the antenna. The spurious emission was not there into the dummy load, so it was probably due to the effect of the antenna being overcoupled into the oscillator, giving rise to oscillation on two frequencies. You need to watch out for that sort of thing in any self-controlled single-tube oscillator transmitter.

So.... out of all the tubes that I tried, the good old 6SN7 was the best of the smaller tube types, and the 6528A was the best of the biggies. I did not do any adjustments for feedback taps or for grid biasing to

optimize the oscillator for each particular tube, although the design was originally optimized for the 6SN7.

Although these output powers are not going to make you compete with the big guns on the CW sweepstakes, they are sufficient to allow a lot of fine glowbugging on the BA/GB nets. Grandma Hartley only runs 220 vdc on her dynamotor at about 15 ma or so, and she gets out all over east of the Rockies, with good reports.

Well, that is the report for now.

73/ZUT DE NA4G/Bob UP

End of GLOWBUGS Digest 359
